Mainstreaming co-benefits approach in the transport sector

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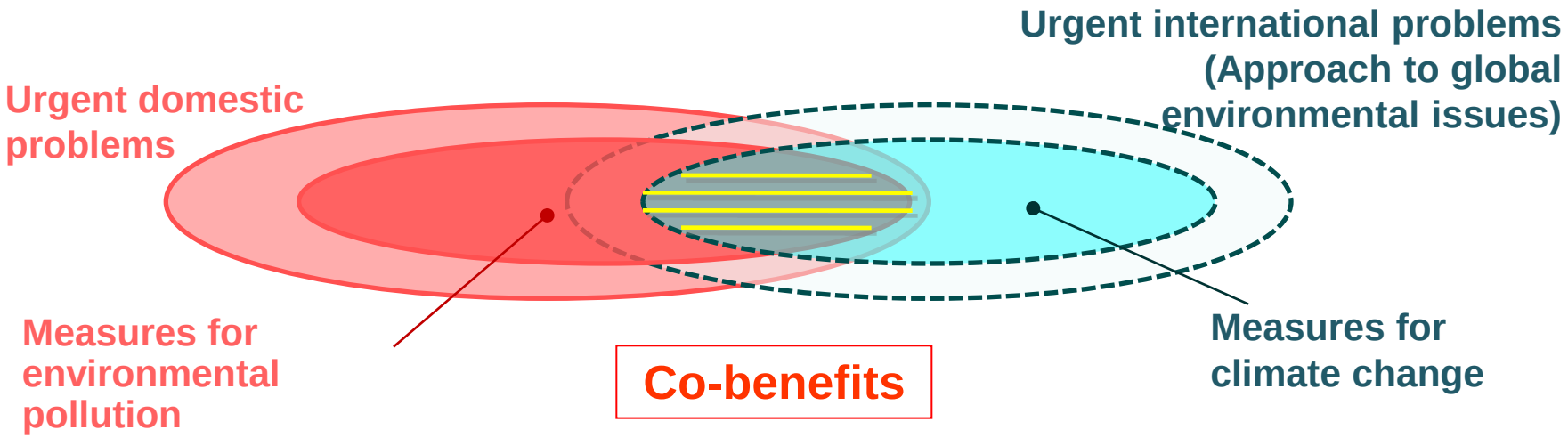
WANTED:
sustainable transport roadmap

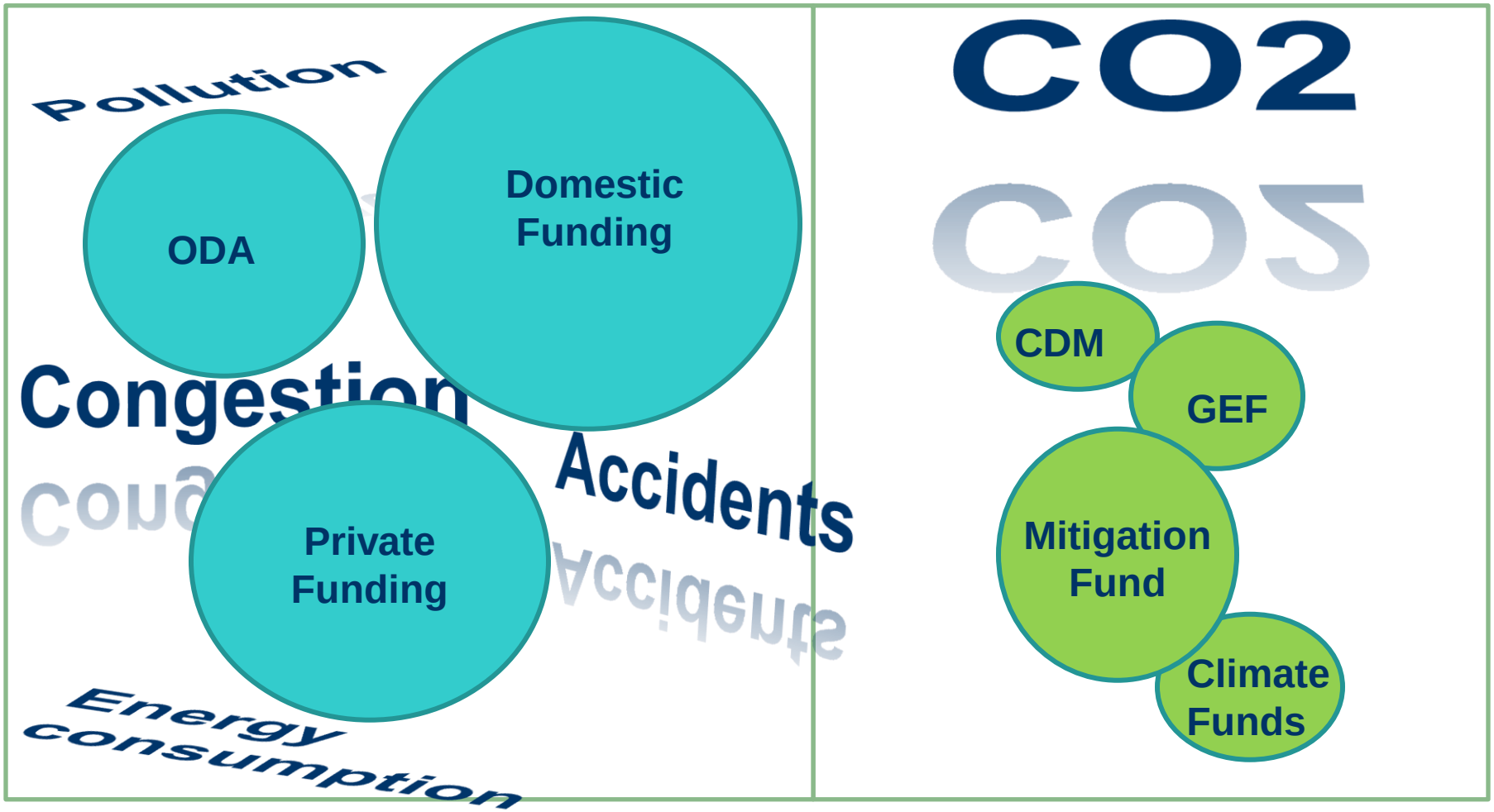

"Traffic is not just a line of cars. It is a web of connections. **A real solution will look at relationships across the entire road network and all the other systems that are touched by it**: our supply chains, our environment, our companies, the way people and communities live and work." IBM 2010 Commuter Pain Survey

TRANSPORT CO-BENEFITS APPROACH:

aims to reduce greenhouse gas emissions, prevent environmental pollution, and support sustainable development **all at the same time**



Who pays for what?



Transport projects/policies are not created equal

	Pollution	CO2	Congestion
Improve – reduce emissions per km			
Technology / vehicle change	+++	++	?
Improved driving skills	++	+	+
Fuel-switch (CNG, LPG, biofuels)	++	?	?
Shift – reduce emissions per unit transported			
Passenger transport:			
Mode switch	+++	++	+++
Usage of larger units	+	+	++
Improved occupancy rates	++	++	++
Freight transport	++	++	++
Avoid – reduce number of trips			
Land use – Behavioral change	+++	+++	++
TDM / TOD	++	+++	++

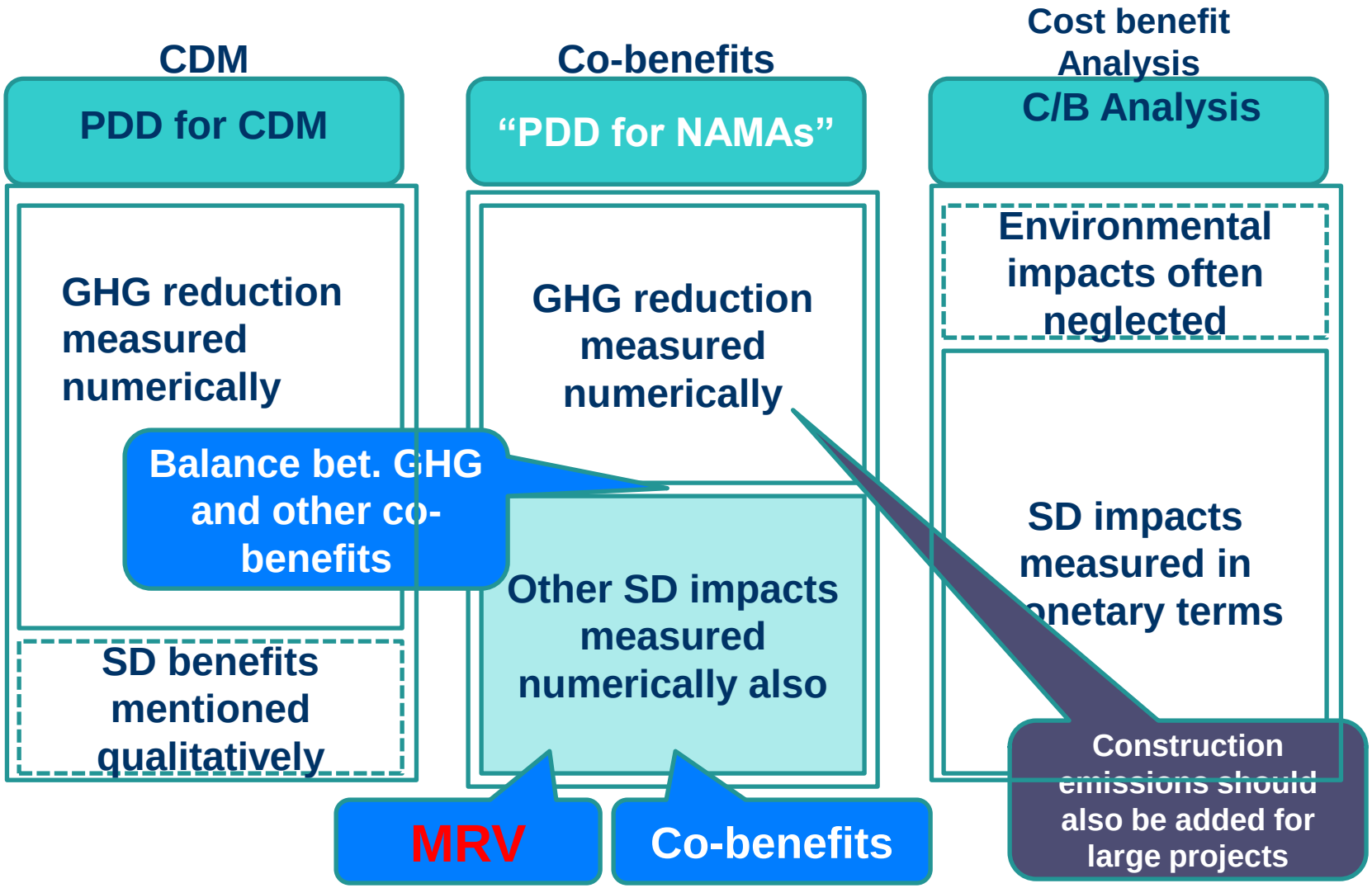
Source: CAI-Asia, 2008

Why quantify co-benefits?

everyone appreciates the “co-benefits approach” but operationalizing the concept is perceived as hard work with less incentive

- the numbers serve as proof to influence **better decision-making** and **implementation**
- if it can be measured, it can be managed
- the ‘proof’ can **leverage financing**

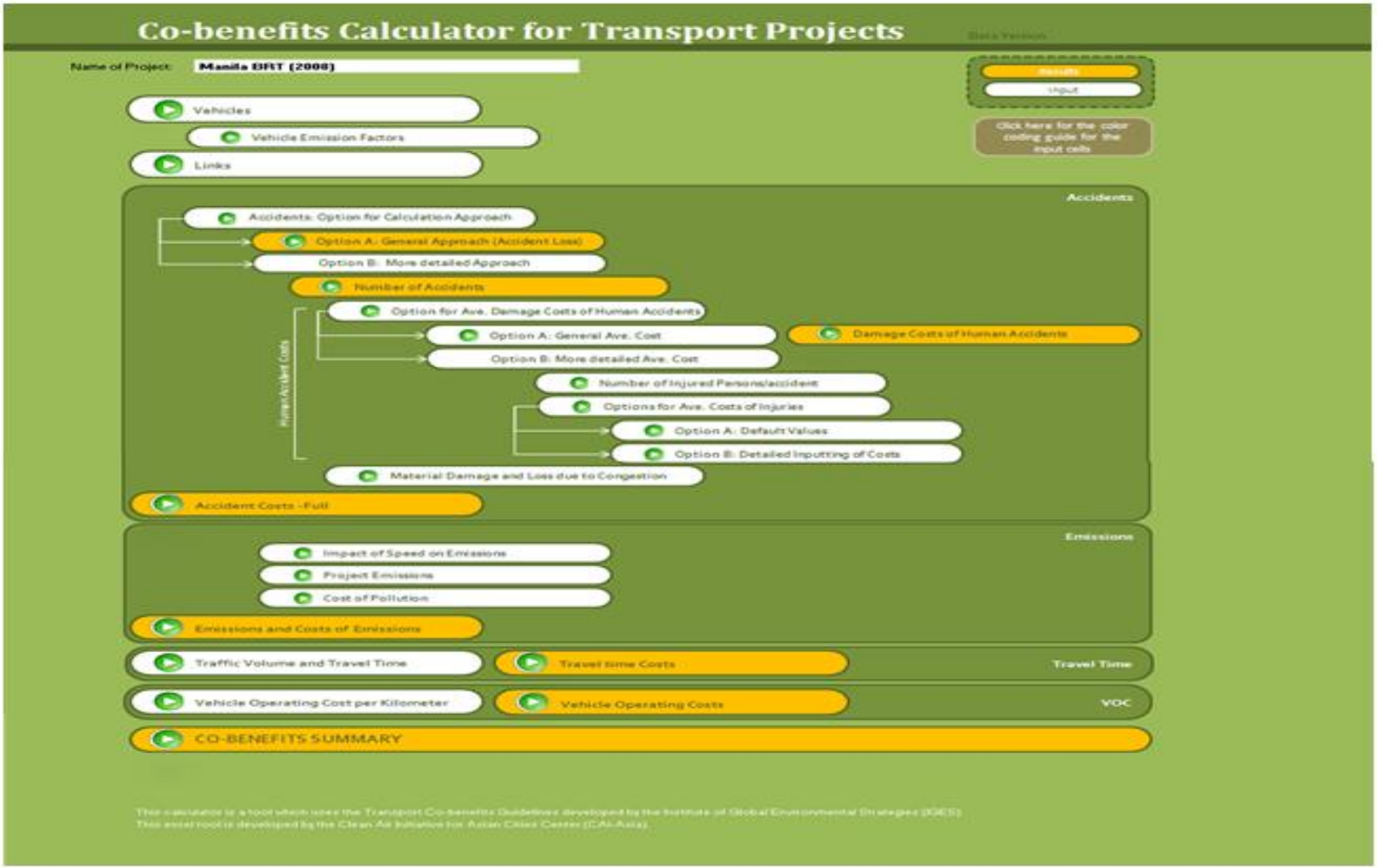
Not a new tool, bringing in more benefits



Transport Co-benefits Guidelines

Available for download at:
http://www.cobenefit.org

Transport Co-benefits Calculator



Case study: Bangkok BRT

	2006 Base case	2011 Without BRT scenario	2011 With BRT scenario	Difference between With and Without BRT scenarios
Time Cost (Baht/year)	467,088,340,223	372,519,518,162	369,352,291,793	-3,167,226,369
Operating Cost (Baht/year)	758,591,194,274	771,676,100,219	766,519,611,334	-5,156,488,885
Loss by Accident (Baht/year)*	143,215,180,809	138,838,420,713	137,465,291,897	-1,373,128,816

*Based on Japanese values

Emission reductions

	Pollutants	Emissions or emission reductions (t/day for CO_2, kg/day for others)	
Air pollutants	NOx	2006	
		2011 (Without BRT)	327,389
		2011 (With BRT)	325,930
		Reduction (Without –With BRT)	1,458
		Reduction rate ((Without –With BRT)/Without BRT)	0.45%
	CO	2006	
		2011 (Without BRT)	1,173,604
		2011 (With BRT)	1,160,929
		Reduction (Without –With BRT)	12,676
		Reduction rate ((Without –With BRT)/Without BRT)	1.08
	PM	2006	
		2011 (Without BRT)	13,858
		2011 (With BRT)	13,843
		Reduction (Without –With BRT)	15
		Reduction rate ((Without –With BRT)/Without BRT)	0.11%
Greenhouse gas	CO_2	2006	
		2011 (Without BRT)	67,327
		2011 (With BRT)	66,903
		Reduction (Without –With BRT)	424
		Reduction rate ((Without –With BRT)/Without BRT)	0.63%

Key points

❖ **Transport co-benefits (carbon dioxide reductions, urban air pollution improvement, public health impacts, vehicle operating costs, time savings and accident reductions) are estimated to be greater in Asia than other regions. Among possible transport options, public transportation projects have the highest co-benefits.**

❖ **Better decision-making is the key to capture holistic co-benefits**

- Engaging more stakeholders
- "Re-educating" transport practitioners on other available sustainable transport modes and so-called climate experts the on the ground realities in dealing with emissions from transport sector
- CO2 reduction alone is not enough to influence policymakers to adopt a paradigm shift, must highlight local developmental co-benefits
- Climate funds could break the inertia; incentivize environmentally sustainable, low-carbon transport policies and projects

Activities

- To develop simplified transport MRV methodologies
- To map out data gaps between data periodically collected by government agencies and data required to conduct MRV
- To develop tools complementing the transport MRV methodologies

Case studies

- Transport governance and data collection at different level
- Focus on road-based transport emissions in the city level (Beijing, Wuhan, Delhi and Ahmedabad)

	National	Provincial	City
Transport Activity			
Modal structure			
Energy intensity			
Carbon content			

- Who collects data?
- Mandate and authority of emissions reporting and control?
- Action plan with target?
- Other policies and measures?

Most likely scenario for MRV

UNILATERAL	may mainly reflect host countries' needs
SUPPORTED	may be less rigorous depending on the requirements of financiers; could be correlated to GHGs
CREDITED	strict in quantifying emission reductions to be used as offsets; could be CDM-like

Most likely scenario for MRV

UNILATERAL	**no need for new methodologies**
SUPPORTED	**support is needed at the start; *ex-ante* estimation allowed (e.g. using GEF's meth, JICA's, etc)**
CREDITED	**CDM-like to ensure environmental integrity of emission reductions to be used as offsets**

Identified issues

- How to improve yet simplify existing CDM methodologies?
- What are the data collected by government agencies? Are those data sufficient enough for MRV requirements?
- How to transfer accumulated capacity based from CDM experiences of private project proponents to government agencies implementing transport NAMAs?

How to simplify CDM methodologies?

- use of default values
- benchmarking
  - adjustment of initial values after verification

STEP 1	STEP 2	STEP 3
use of initial **default values** (*ex-ante* estimation)	**a**ctual survey **(monitoring)**	**a**djusted values (*ex-post* verification)

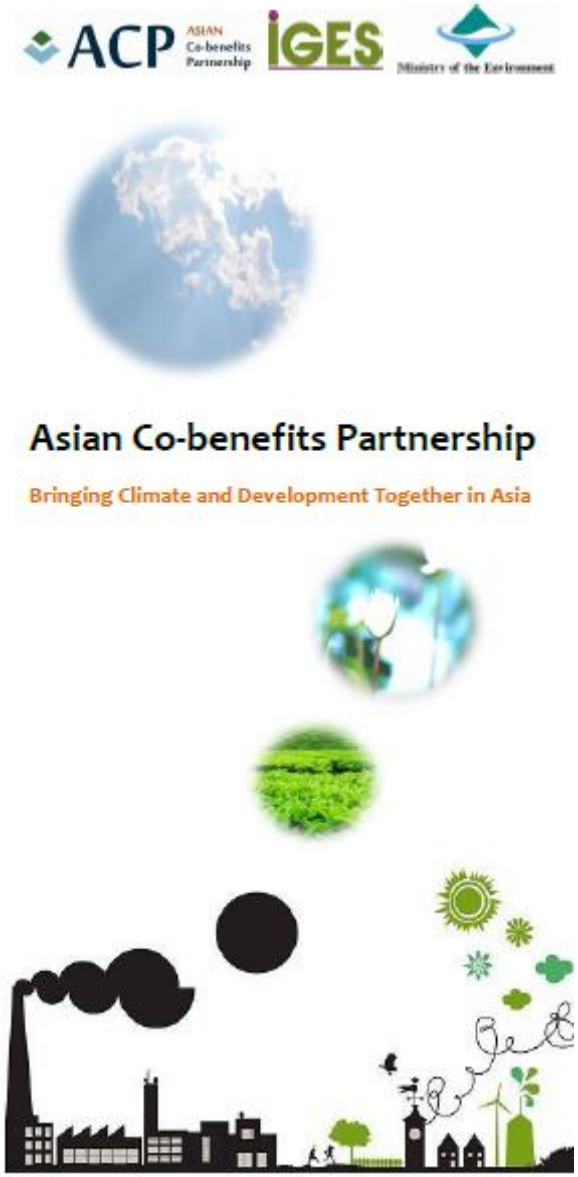
- prioritize more capacity building
- strengthen data collection and management

Survey on transport data requirements (Beijing, Wuhan, Delhi, Ahmedabad)

- general transport data
  - number of vehicles, fuel consumption, traffic count, trip length, mode share, vkt, ave. occupancy, ave. distance, travel time by mode, ave. speed, freight tonnes, kms of road, kms of footpaths and bike lanes, fuel efficiency, land use indicators, economic variables
- transport project evaluation / approval
- transport project monitoring and assessment
- future plans on transport

Findings from survey

- not all data required to conduct MRV are routinely collected
- transport data collected are scattered among different agencies
- transport data collected are not the same across cities
- capacity for data collection and management also varies among agencies and cities



Thank you for your attention.

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